BassPro™II
Powered Subwoofer

SERVICE MANUAL

JBL Consumer Products
250 Crossways Park Dr.
Woodbury, New York 11797

Rev0 6/2003

CONTENTS

BASS PRO II BASIC SPECIFICATIONS

Amplifier power:	100 Watts
Frequency response:	20Hz – 120Hz
Fuse rating:	20A
Max current draw:	12A
Idle current draw:	<800mA
Input sensitivity:	50mV to 4V Line-level input; 1V to 16V universal interface
Crossover frequency:	70Hz – 120Hz
Crossover slope:	12dB
Dimensions (L x W x H):	16-1/8" x 9-1/2" x 12-1/4" (includes mounting feet)
	(410mm x 242mmx 312mm)

JBL continually strives to update and improve existing products, as well as create new ones. The specifications and details in this and related JBL publications are therefore subject to change without notice.

BASSPROII AUTO SUBWOOFER SPECIFICATIONS

GENERAL CONDITIONS: TEST INPUT SIGNAL FOR LINE IN – 2CH/60Hz/250mV.
TEST OUTPUT – 1 W ATT 4 Ohms LOAD (Bridge).
POWER SOURCE DC14.4V/12A min

TEST CONDITIONS: ALL TEST SIGNALS FROM LINE IN UNLESS OTHER REMARKS.
CROSSOVER VR AT MAX POSITION UNLESS OTHER REMARKS.

		UNIT	NOMINAL	LIMIT
1. TOTAL OUTPUT POWER		W	100	
2. OUTPUT POWER (1 CHANNEL) (60, 400; 5.0% THD)		W	22	20
3. THD AT 1.0W (60,250;)		%	0.3	0.5 MAX
4. SIGNAL TO NOISE RATIO (60,250; O/P=1W;)		dB	70	65 MIN
5. FREQUENCY RESPONSE (-- , 250; O/P=1W)	(60-120HZ)	dB	60Hz	0REF
			120Hz	-1.6+/-3
			180Hz	-6.5+/-3
6. CROSSOVER RANGE (120,250,O/P=1W,MAX REF)	MAX TO MIN	dB		-12+/-3
7. CROSSOVER SLOPE		dB	12	
8. INPUT SENSITIVITY (60, --;O/P=18W,L+R, GAIN MAX) (60, --;O/P=18W, 2CH,GAIN MAX)	LOW – INPUT	mV	340	+/- 60
	HI – INPUT	V	3.5	+/- 0.6
9. MAX GAIN NOISE, GAIN MAX)		mV	0.8	1.5 MAX
10. MIN GAIN NOISE, GAIN MIN)		mV	0.5	0.9 MAX
11. AUTO SENSE (--, --, HI-N, 1CH)	AUTO ON LEVEL	V	1.8	+/- 0.5
	AUTO OFF TIME	MIN	3.0	+/- 1.5
12. PROTECTION CIRCUIT (60,250,O/P=10W)	SHORT SPK TERMINAL +/-			Functional
13. FUSE RATING		A	20	
14. MAXIMUM CURRENT DRAW		A	12	
15. IDLE CURRENT DRAW		mA	<800	
16. DIMENSIONS	16 1/8 X 9 ½ X 12 ¼" (410 X 242 X 312MM)			

POWER CONNECTIONS

Connecting power to BassPro II is shown in **Figure 7**. Please observe the following installation tips:

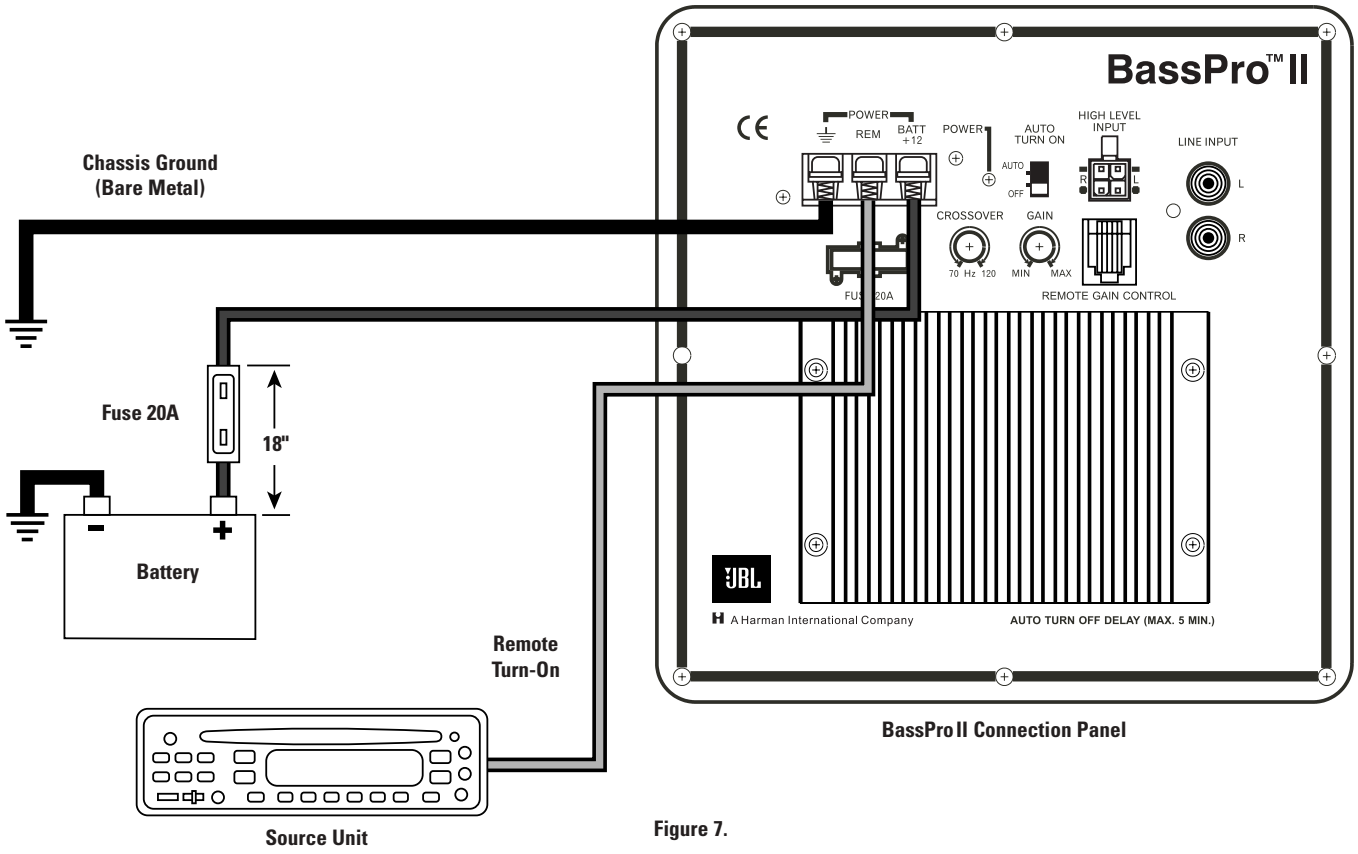
When using the high-level input connections, BassPro II will automatically turn on when you turn on your radio. In this case, the remote (REM) connection is not needed. Use at least #20 AWG speaker wire for speaker-level input connections.

Use at least #12 AWG wire for the Positive Battery (BATT +12) and Ground (⏚) connections. If needed, use at least #20 AWG wire for the remote (REM) turn-on connection.

Connect BassPro II's "BATT +12V" terminal directly to the battery's positive (+) terminal. Install a fuse holder, with a 20A fuse, within 18" of the battery's positive (+) terminal.

Route all power wires through a grommet in the vehicle's firewall. If a factory grommet is not available, install one. Connect a short ground wire from BassPro II's ground terminal (⏚) to the nearest bare metal surface. For a good connection, use sandpaper to clear paint from the metal surface and use a screw with a lock (star) washer.

The remote (REM) connection requires a +5 to +12 Vdc signal for BassPro II to turn on when using the line-level connections. Most head units with preamp outputs provide this remote voltage signal. As an alternative, connect this terminal to a switched ignition circuit.



BassPro II Connection Panel

Figure 7.

APPLICATIONS

BassPro II is equipped with two line-level (RCA) inputs and two high-level inputs. To help you plan the installation of BassPro II, we have included two system application diagrams in **Figures 8 and 9**. For more installation suggestions, contact your local authorized JBL car audio dealer.

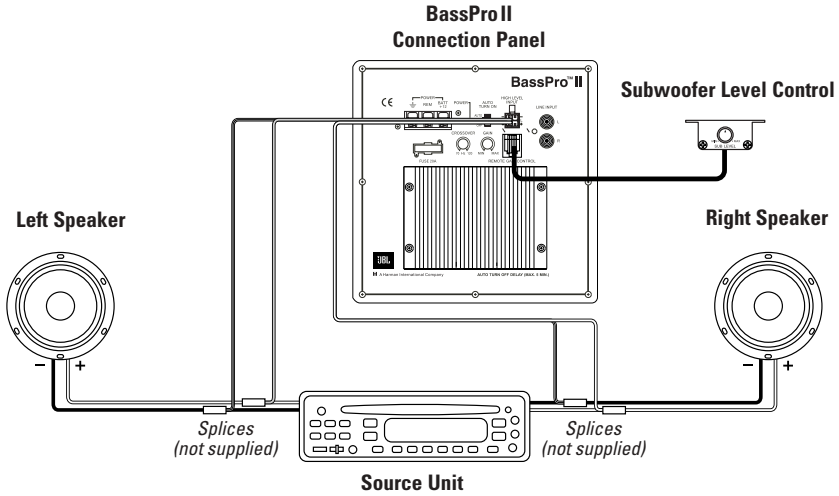


Figure 8. High-level connections. Connect BassPro II's high-level inputs to either the front or rear speaker outputs of your head unit (splice crimps not included).

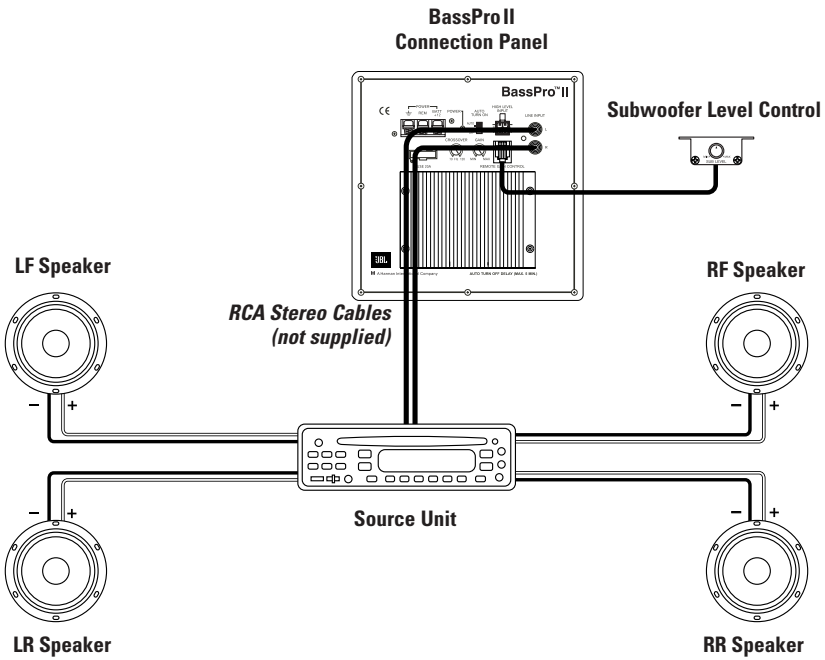


Figure 9. Line-level connections with two outputs (single full-range or subwoofer).

CONTROLS AND FUNCTIONS

BassPro II has controls and indicators that help simplify sonic integration with almost any vehicle's unique acoustic properties. These controls are located on the amplifier panel, as shown in **Figure 10**.

Power LED
Gain Control
Crossover
Remote Bass Control
Auto Turn-On

POWER LED: This indicator will glow red when the BassPro II is operating.

GAIN CONTROL: Use this control to adjust the relative volume (loudness) of BassPro II with the other speakers in the vehicle.

CROSSOVER: Use this control to adjust the amount of high-frequency information present in BassPro II's output. A lower value signifies less high-frequency content.

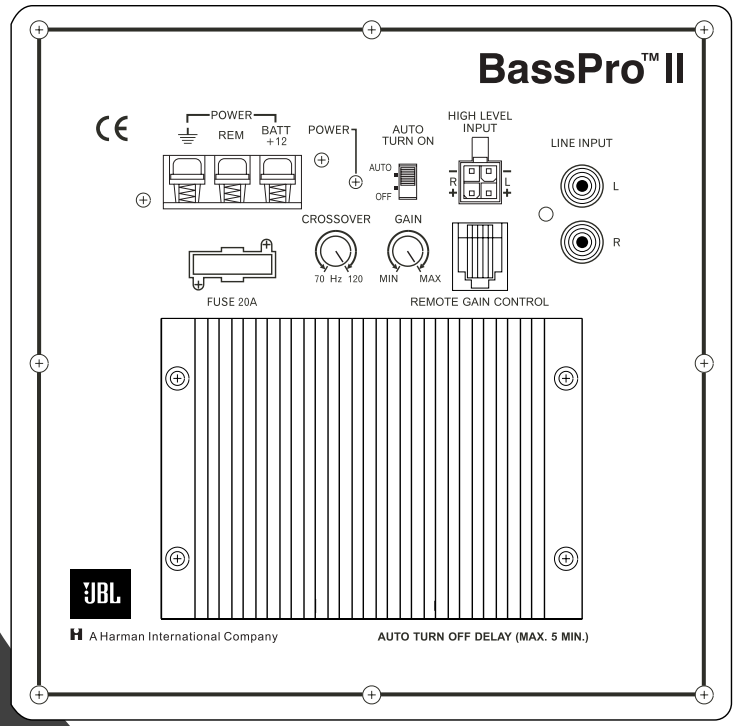


Figure 10.

AUTO TURN-ON: For speaker-level connections, used this switch to activate (or deactivate) BassPro II's automatic turn-on circuit. For most speaker-level applications, slide the switch to the AUTO position. If you prefer to use the remote (REM) connection, slide the switch to the OFF position.

REMOTE BASS CONTROL: Use this RJ-11 jack to connect the supplied remote bass control.

SETTING THE CONTROLS:

1. Make sure the head unit is off and VOLUME control is set to minimum.
2. On BassPro II's amplifier panel, set the CROSSOVER to its maximum frequency of 120Hz, as shown in **Figure 10**.

NOTE: If using the REMOTE BASS CONTROL, set GAIN to maximum and set the BASS CONTROL to the midpoint.

3. Turn the head unit ON and play a selection of your favorite music track that has substantial bass.
4. Adjust the CROSSOVER control counterclockwise, until you hear only low-frequency information. Example – you should not hear vocals coming from BassPro II when seated in the normal listening position.
5. Adjust the BASS CONTROL either clockwise or counterclockwise to suit your taste, and to avoid audible distortion.
6. If you elect not to install the Remote Bass Control, adjust the GAIN control to the maximum level that provides undistorted output from the BassPro II, with the head unit's volume control at its 3 o'clock setting.

NOTE: In most cases the above steps will provide you with satisfactory results. However, the actual process may require several readjustments of each control, since the settings will interact with one another. If necessary, consult your authorized JBL car audio dealer for help in tuning your system.

TROUBLESHOOTING

PROBLEM	CAUSES AND SOLUTIONS
POWER LED is not lit.	1. Fuse is blown and needs replacement. 2. Head unit not functioning properly. 3. Check remote turn-on, power and ground connections.
POWER LED is lit but there is no bass.	1. Inputs are not connected. Check connections. 2. Head-unit fader controls are not set properly. Adjust head-unit controls to feed audio signals to BassPro II. 3. Incorrect GAIN control setting.
Output sounds muddy or distorted.	1. GAIN is set too high. 2. Bass level is set too high on head unit. 3. Head unit output is distorted or blown. See your authorized JBL car audio dealer.
Output gets louder when the head-unit balance is adjusted to L or R.	Using speaker-level connection: one of the speaker connections is reversed (+/–). Reverse one channel.
POWER LED remains ON after system is turned off.	Speaker-level connections have a five-minute turn-off delay. Check the unit at a later time.

INSTALLING THE REMOTE

The Subwoofer Level Control may be mounted under the dash or dismantled and mounted in the dash for a factory-installed appearance.

UNDER-DASH MOUNTING

Select a mounting location that allows easy access to the control while driving. Using the Subwoofer Level Control as a template, mark and drill holes in the mounting surface. Attach the Subwoofer Level Control using the mounting screws provided (**Figure 4**).

IN-DASH MOUNTING

Disassemble the Subwoofer Level Control by removing the two Phillips-head screws on the front panel, rear panel and on top. Remove the Subwoofer Level Control's bottom and side panels. Slide the Subwoofer Level Control's PC board forward to release the RJ11 connector from the back panel and remove the board along with the potentiometer, knob and connector as a single assembly.

Choose a mounting location that allows easy access to the control, and provides 1-3/4" clearance behind the mounting surface. Drill a 9/32" hole in the mounting surface. Feed the Subwoofer Level Control's potentiometer shaft (with the knob removed) through the hole and use the nut and washer provided to hold the control in place (**Figure 5**).

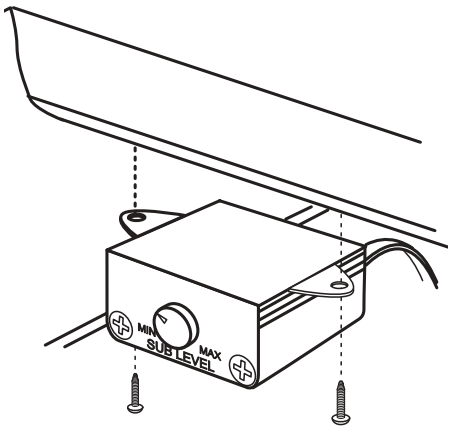


Figure 4. Under-dash mounting of the Subwoofer Level Control.

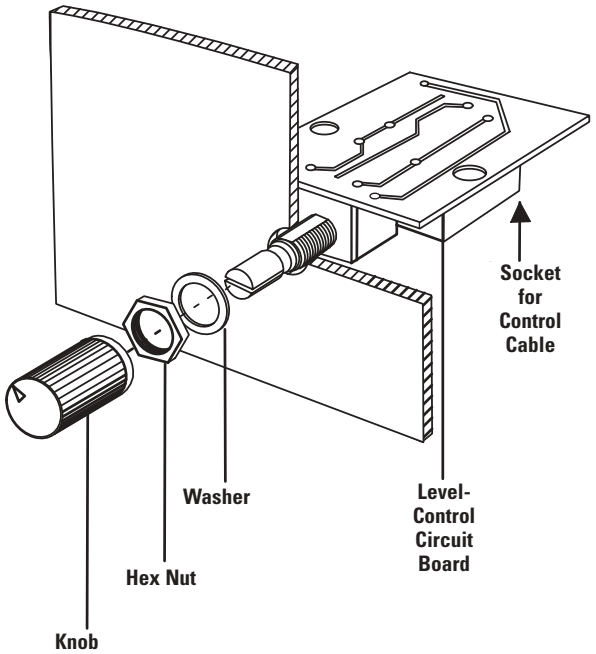


Figure 5. In-dash mounting of the Subwoofer Level Control.

CONNECTING THE SUBWOOFER LEVEL CONTROL TO BASSPRO II

Route the cable behind the dash or other interior panels and under the carpet. Do not route the cable outside the vehicle. Connect the RJ11 cable between the RJ11 receptacle on the BassPro II and the receptacle on the Subwoofer Level Control (**Figure 6**).

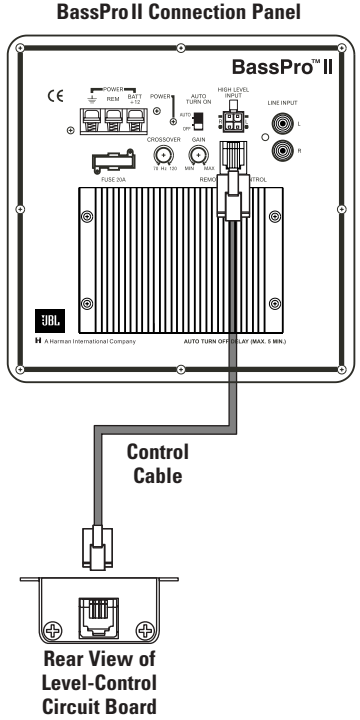
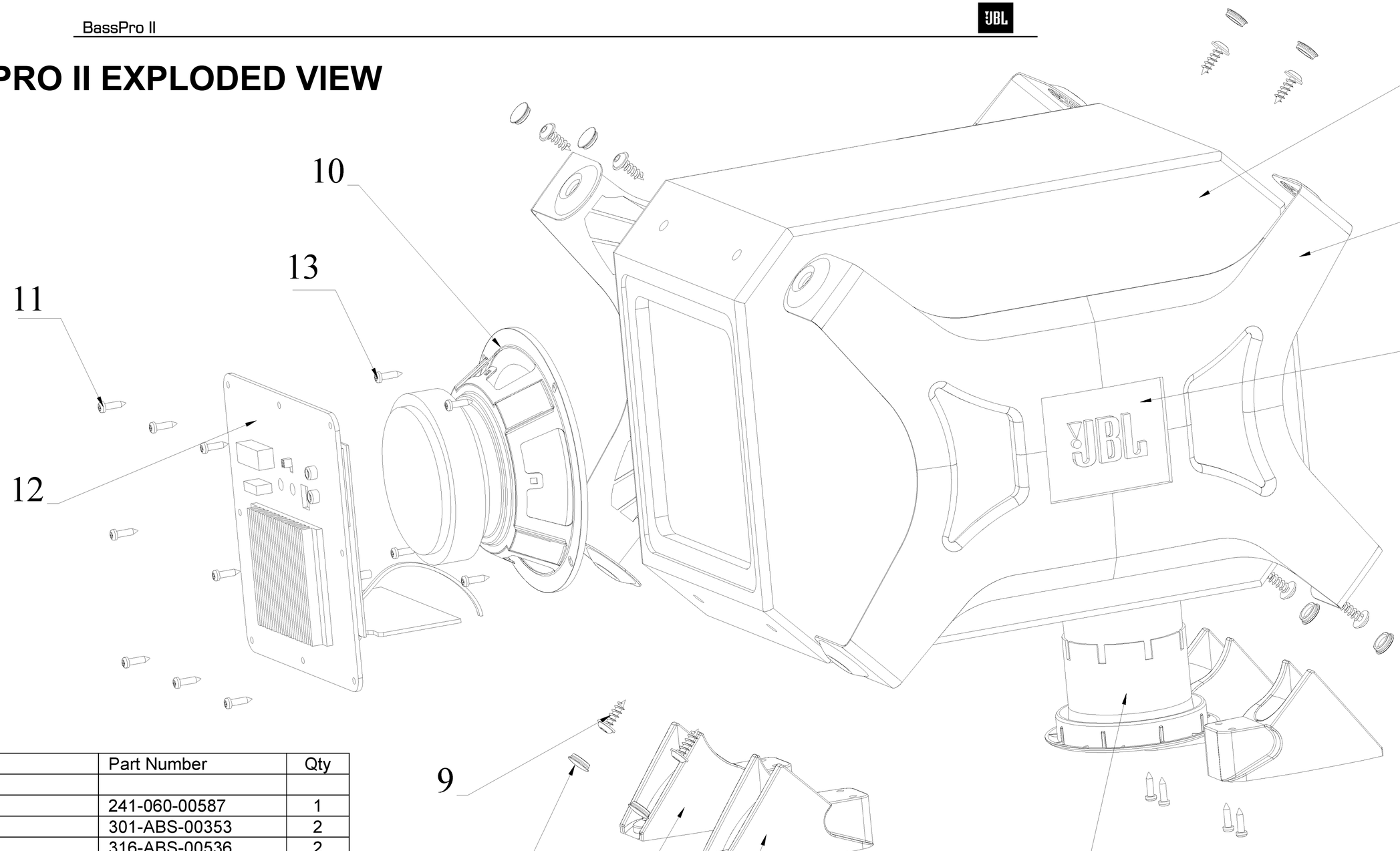


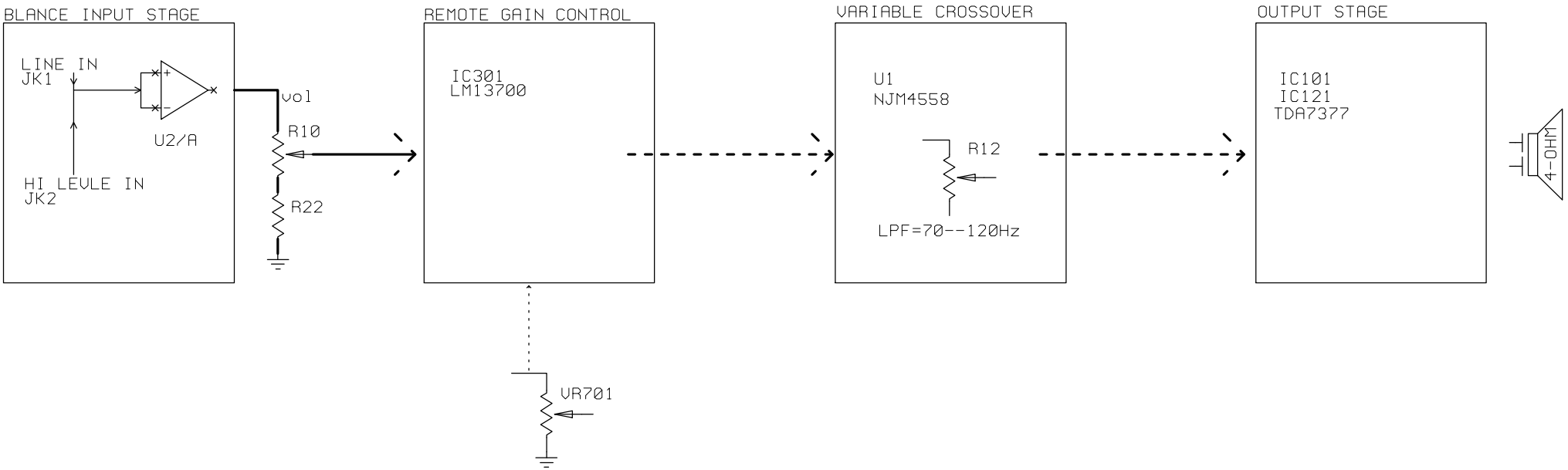
Figure 6. Subwoofer Level Control electrical connection.

BASS PRO II EXPLODED VIEW

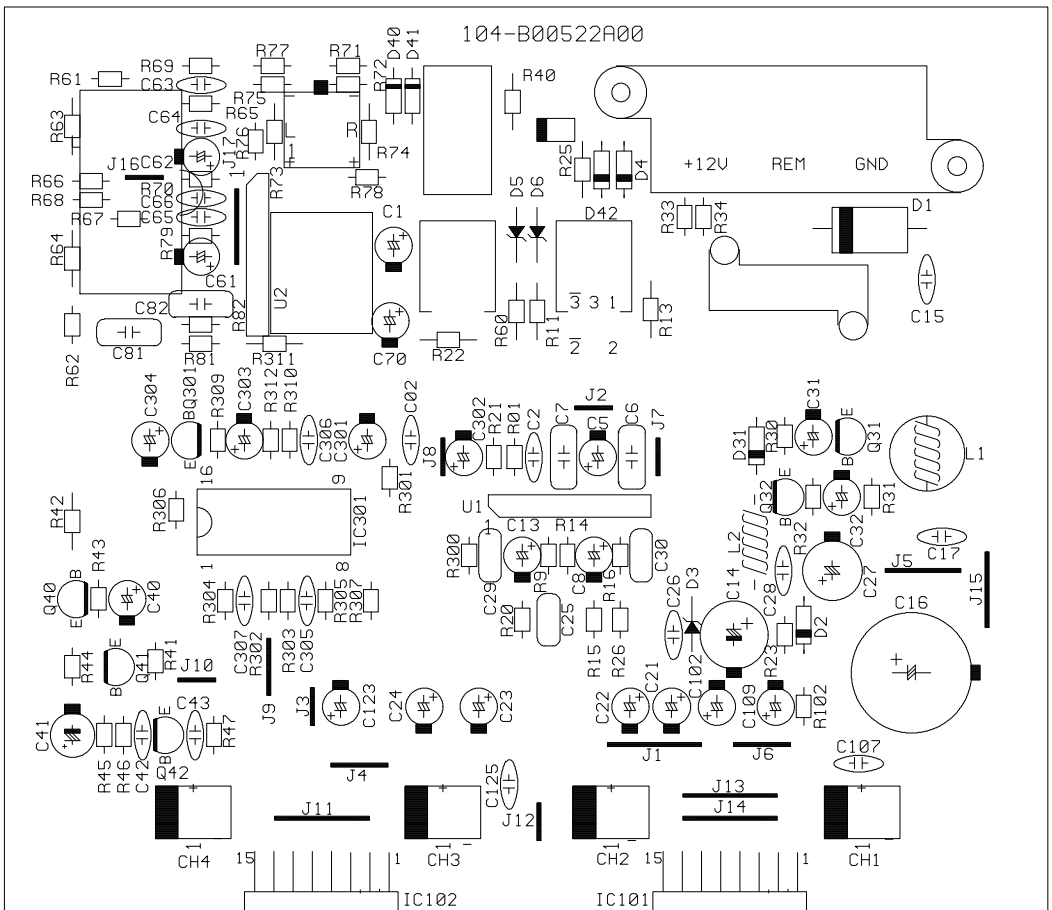


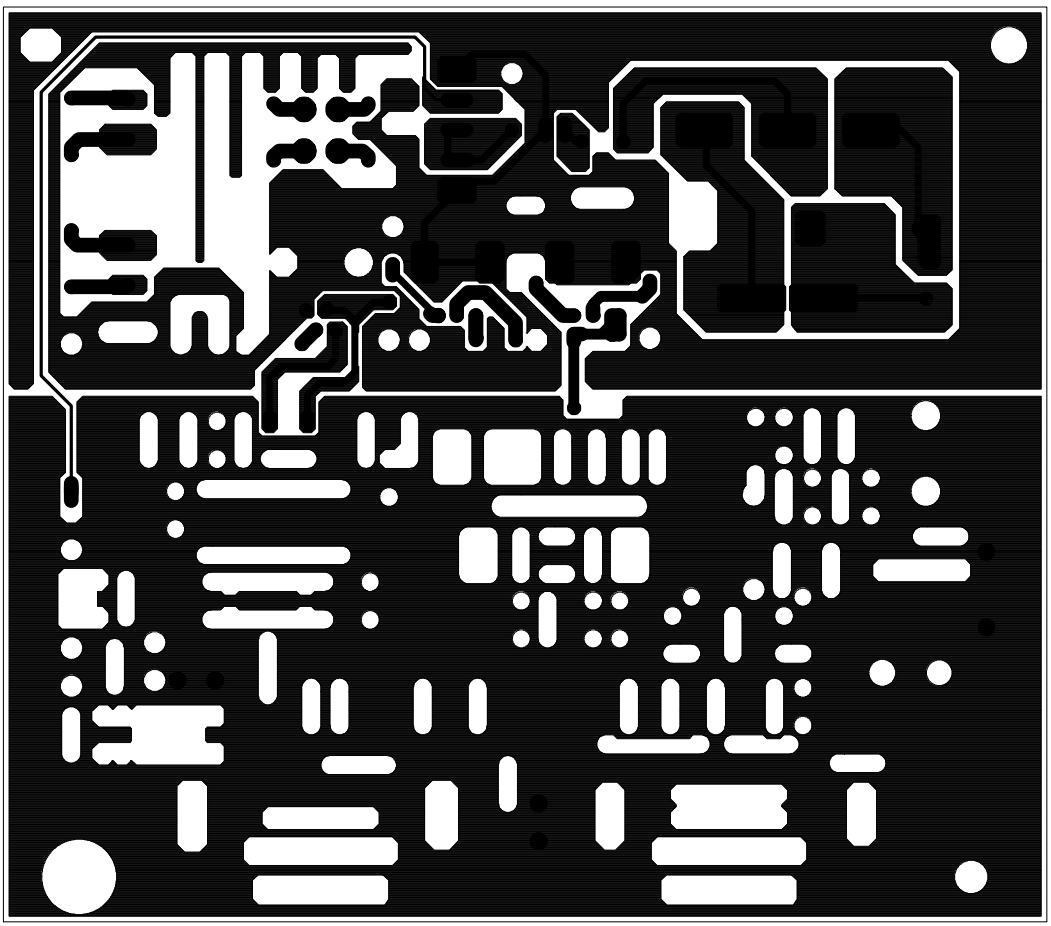
Ref. #	Description	Part Number	Qty
1	Enclosure	241-060-00587	1
2	Side Baffles	301-ABS-00353	2
3	Logo	316-ABS-00536	2
4	Port Tube	249-ABS-00148	1
5	Right Bracket	325-ABS-00421	2
6	Left Bracket	325-ABS-00420	2
7	Plug (Screw Cap)	338-ABS-00126	8
8	Screw	351-FM04039A572	8
9	Screw	352-HM04014D611	8
10	Woofer (DCR = 3.6Ω x 4)	16PF11BZW-AW01	1
11	Screw	352-FM04019D470	8
12	Amplifier	Not For Sale	1
13	Screw	325-FM04018A576	4

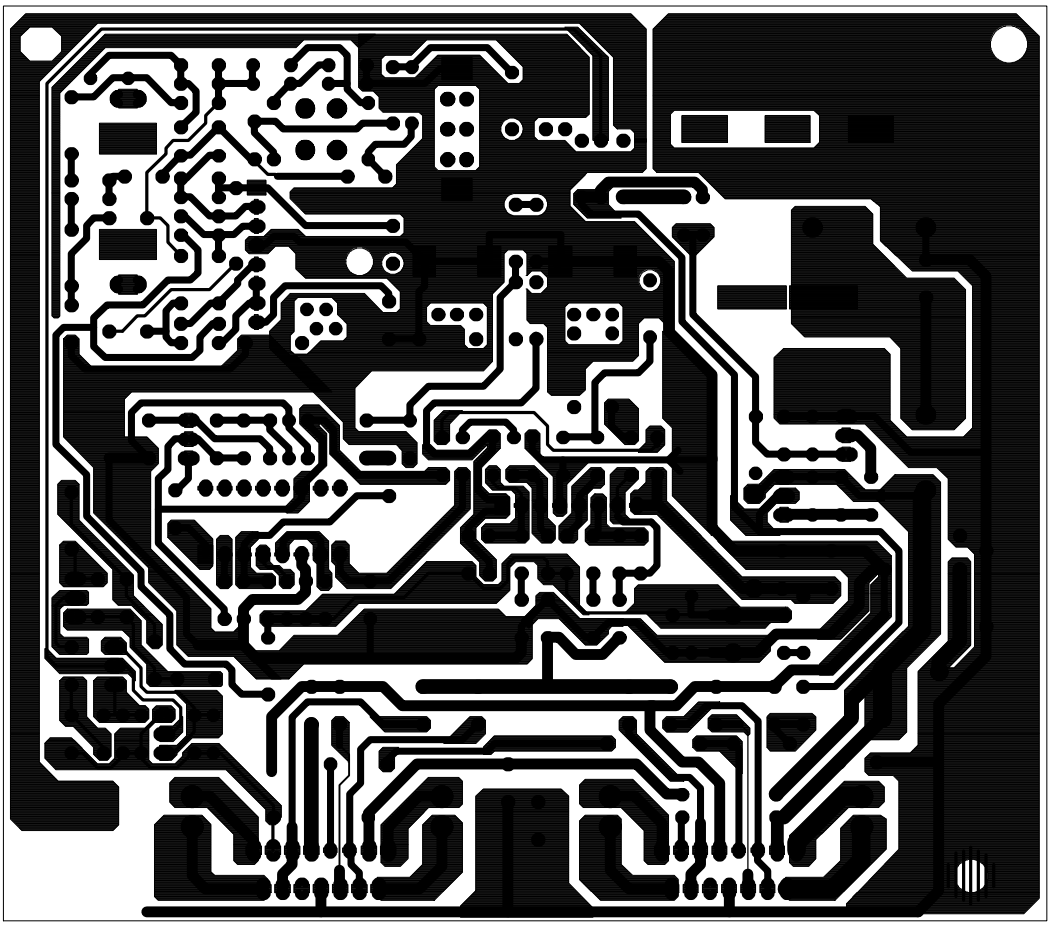
BASSPROII CIRCUIT DIAGRAM



INDICATE NEED SOLDER ON COMPONENT SIDE.
DOUBLE SIDE PCB NO NEED THROUGH HOLES PROCESS.





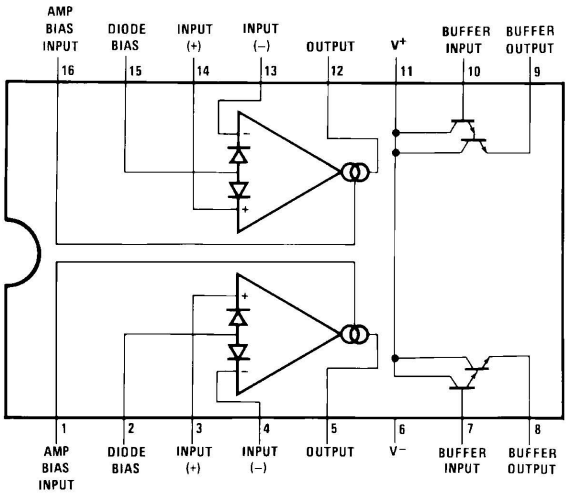


BassPro II Electrical Parts List		
Part Number	Description	Reference Designator
Resistors		
110-16102j26	Resistor 1K 1/6W±5% CF 26mm TAP	R01,25,32,40
110-16103j26	Resistor 10K 1/6W±5% CF 26mm TAP	R11,13,20,44,102,305,307,312,73,74,63,64,65, 66,67,68
110-16105j26	Resistor 1M 1/6W±5% CF 26mm TAP	R45
110-16112j26	Resistor 1.1K 1/6W±5% CF 26mm TAP	R22
110-16151j26	Resistor 150K 1/6W±5% CF 26mm TAP	R311
110-16153j26	Resistor 15K 1/6W±5% CF 26mm TAP	R304,309
11016154j26	Resistor 150K 1/6W±5% CF 26mm TAP	R42,310,77,78,75,76
110-16202j26	Resistor 2K 1/6W±5% CF 26mm TAP	R60
110-16203j26	Resistor 20K 1/6W±5% CF 26mm TAP	R79,70
110-16224j26	Resistor 220K 1/6W±5% CF 26mm TAP	R14
110-16273j26	Resistor 27K 1/6W±5% CF 26mm TAP	R16,21
110-16275j26	Resistor 2.7M 1/6W±5% CF 26mm TAP	R46
110-16303j26	Resistor 30K 1/6W±5% CF 26mm TAP	R306
110-16332j26	Resistor 3.3K 1/6W±5% CF 26mm TAP	R26
110-16393j26	Resistor 39K 1/6W±5% CF 26mm TAP	R15
110-16472j26	Resistor 4.7K 1/6W±5% CF 26mm TAP	R31,72,71,62,61
110-16473j26	Resistor 47K 1/6W±5% CF 26mm TAP	R33
110-16474j26	Resistor 470K 1/6W±5% CF 26mm TAP	R43,34
110-16511j26	Resistor 510Ω 1/6W±5% CF 26mm TAP	R302,303
110-16514j26	Resistor 510K 1/6W±5% CF 26mm TAP	R47
110-16622j26	Resistor 6.2K 1/6W±5% CF 26mm TAP	R301
110-16681j26	Resistor 680Ω 1/6W±5% CF 26mm TAP	R23
110-16822j26	Resistor 8.2K 1/6W±5% CF 26mm TAP	R30
115-v203b101	Variable Resistor R0901N-JMD1	R10
115-v203b202	Variable Resistor R0901G-2KD1-B20K	R12
Capacitors		
130-2b101k503	Disc capacitor 100P 50V±10% TAP	C63,64
130-2b102k503	Disc capacitor 1000P 50V±10% TAP	C2,02,42,43
130-2b221k503	Disc capacitor 220P 50V±10% TAP	C65,66
130-2f104z503	Disc capacitor 0.1uF 50V+80%/-20% TAP	C15,17,26,28,107,125,306,307
132-103j503	Mylar capacitor 0.01U 50V±5% TAP	C30
132-104j503	Mylar capacitor 0.1U 50V±5% TAP	C6,7,25
132-222j503	Mylar capacitor 0.0022U 50V±5% TAP	C29
135-3105m50	Electolytic 1U 50V±20% TAP	C5,21,22,23,24,40,303
135-3106m50	Electolytic 10U 50V±20% TAP	C13,109,301,8,1,70
135-3226m25	Electolytic 22U 25V±20% TAP	C61,62
135-3227m16	Electolytic 220U 16V±20% TAP	C27
135-3475m50	Electolytic 4.7U 50V±20% TAP	C304
135-3476m50	Electolytic 47U 50V±20% TAP	C41,102,123
135-3108m16	Electolytic 1000uF 16V±20% TAP	C14
135-4338m25	Electolytic 3300uF 25V±20%	C16
Semiconductors		
192-027c1815gr	transistor 2SC1815GR NPN	Q31,40,301
192-028a1015gr	transistor 2SA1015GR PNP	Q32,41,42
197-031n4148	DIODE 100MA 75V SIGNAL IN4148 ROHM TAP	D2,4,40,41,42
199-15000515	zener diode 5.1V 1/2W 52mm TAP	D5,6
199-15000625	zener diode 6.2V 1/2W 52mm TAP	D3
190-06m4558L	I.C. NJRC NJM4558LD Dual Op-Amp	U1,2
190-14m13700n	IC NS LM13700N Dual Op-Amp	IC301
190-16a73770	I.C. TDA7377 Power Amp	IC101,121
195-10204hd	LED RED 3MM FOR STANDBY	PWR
197-101n5402	DIODE IN5402	D1

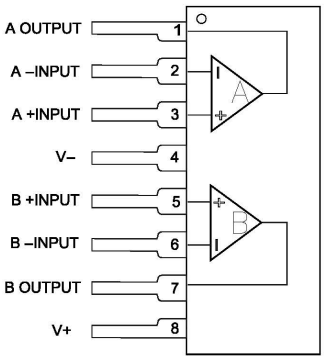
Part Number	Description	Reference Designator
Miscellaneous		
120-12101K3	Inductor 100uH 1/2W 52mm TAP	L2
122-14050K4160	Inductor Ferrite 5uH 15A CR630*5R0KUM	L1
123-11rc6*30wd	NI IR0N CORD(NI-ZN)RC6*30	
160-g2uew130	Golden wire 2uew Φ1.3	
154-k020a800	FUSE 20A 32V ATC UL/CSA	F1
155-9f30240	FUSE SOCKET F30240100P	F1
174-020123bg	PCA PIN JACK JK020123BG	JK1
174-5te112j	DC JACK TE1-12J	JK3
174-9mjd0604	SOCKET M/JACK D/S 6P4C BLK	M104
175-1d02v01	Wire connector 2PIN PITCH=3.96mm	CH1,2,3,4
175-9h04v01	Wire connector 4PIN PITCH=4.2mm	JK2
180-p752209	PUSH SW SSP752209-25JJ1	SW40
162-a040d001	SPK WIRE #1015 400mm 991110-00	
162-a5000001	4C TELEPHONE WIRE 5M BLK	
302-AL-00397-1BA	Rear Panel 179*179*2.5T	
323-AL-00042	Heat Sink	
323-AL-00119	Heat Sink	
333-EVA-00114	EVA	TO PCB
333-EVA-00220	EVA WASHER 225*15*1T UL	TO SPK WIRE
333-EVA-00759	EVA L 177*14*2T	TO R/P-2
333-EVA-00760	EVA W 149*14*2T	TO R/P-2
350-FM04020D104	SCREW Φ4*20 BLK	
351-AM03012A090	SCREW M3*12 BLK	TO 650IH50/HEAR SINK
352-AM02010D006	SCREW Φ2*10 BLK	TO FUSE-2
352-AM03008D040	SCREW Φ3*8 BLK	PCB TO H/S-2
352-AM03010D065	SCREW Φ3*10 BLK	TO RCA-1,TER-2
352-BM03010D064	SCREW Φ3*10 BLK	
355-P0306242	M3 SPRING SPACER ID3.2*OD5.6*T0.8	TO M3 SCREW
361-FE-00056	IC HOLDER 38*9*5.1*1.6T SECC20/20	
361-NYL-00016	LED HOLDER 5.6c *10H	
015-7600-00118	**VOLUME CONTROLLER, COMPLETE**	
115-h203a203	Variable Resistor 20K RD902-20-15K-A24	
311-ABS-00237	VOLUME KNOB	
166-AL035081	CONTROL CABLE	

Bass ProII Semiconductor Pinouts

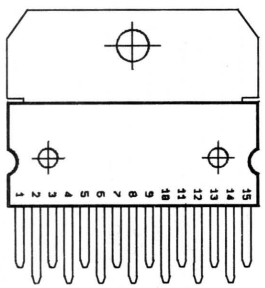
LM13700 DUAL OP-AMP
IC301



NJM4558L DUAL OP-AMP
U1, U2

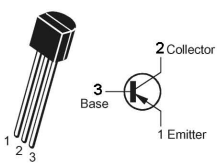


TDA7377
IC101, 121

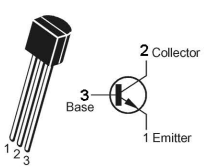


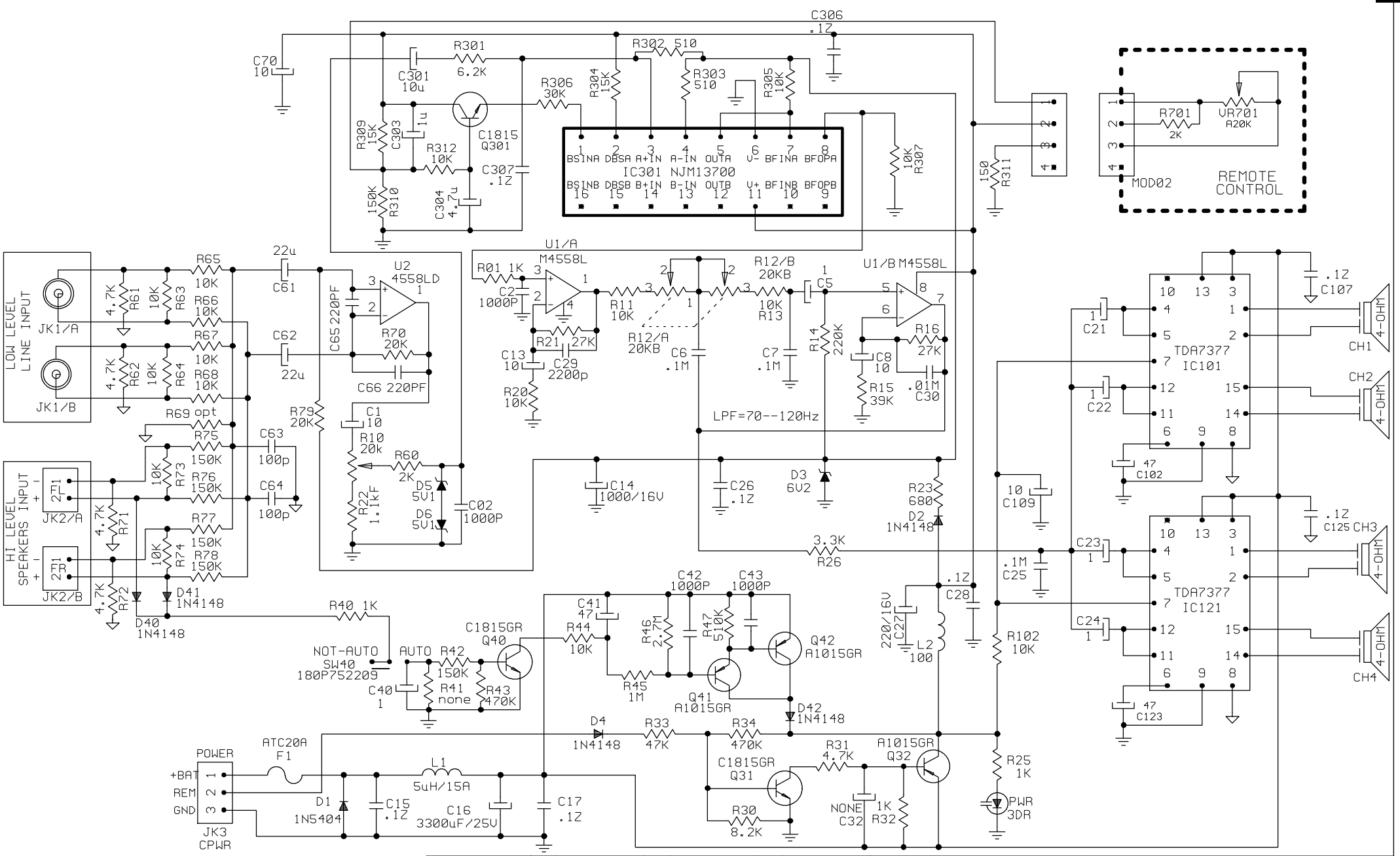
1	OUT 1
2	OUT 2
3	VCC
4	IN 1
5	IN 2
6	SUR
7	STANDBY
8	PWR-GRND
9	SIG-GRND
10	DIAGNOSTIC
11	IN 4
12	IN 3
13	VCC
14	OUT 4
15	OUT 3

2SA1015GR
Q32,41,42



2SC1815GR
Q31,40,301





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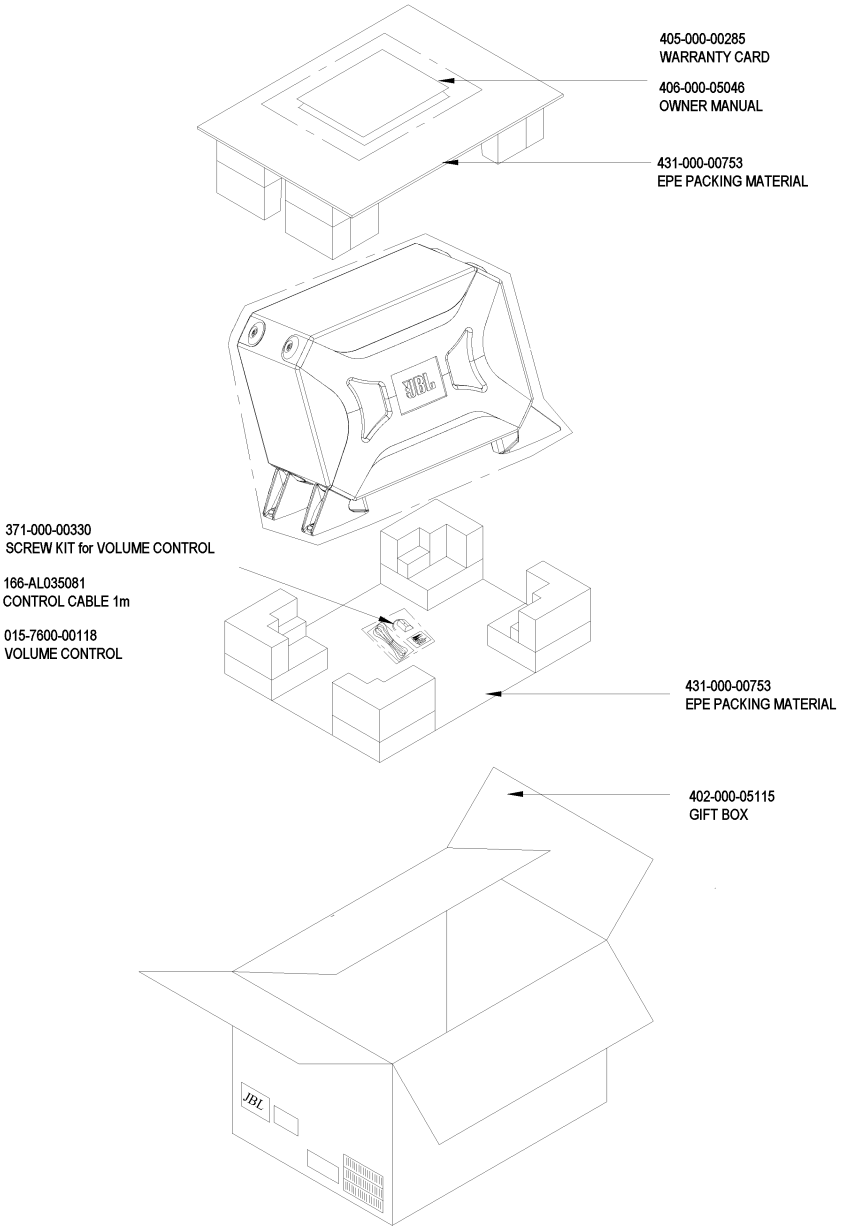
			DWN BY : C.S.WANG	2
			DATE : 2004-02-10	3

PACKAGING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WARRANTY CARD
406-000-05046
OWNER MANUAL
431-000-00753
EPE PACKING MATERIAL
371-000-00330
SCREW KIT for VOLUME CONTROL
166-AL035081
CONTROL CABLE 1m
015-7600-00118
VOLUME CONTROL
431-000-00753
EPE PACKING MATERIAL
402-000-05115
GIFT BOX
JBL